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ABSTRACT

A study investigated whether listening effectiveness could be improved by completing a college listening class. Volunteer subjects, 14 males and 14 females enrolled in a 3-hour, 16-week college listening course for undergraduate or graduate students at a medium-sized midwestern university, were given the video version of the Watson-Barker Listening Test as pre- and posttests. Results indicated that: (1) participation in a listening course improved listening behavior; (2) gender did not affect overall ability to listen effectively; and (3) more education had a positive effect on listening skill. Twenty-one tables of data are included. (Contains 12 references.) (Author/RS)

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THEORETICAL AND PRACTICAL APPROACHES TO TEACHING LISTENING: USING THE WATSON-BARKER LISTENING TEST TO VALIDATE LEVELS OF LEARNING IN THE CLASSROOM

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Abstract

Communication researchers historically have criticized listening tests (Barker, Watson, & Kibler, 1984). They have suggested the critics are concerned about test validity,multiple types of listening, generalizability, norming procedures, passage length, and how the tests are presented. Previous studies have suggested, however, that people can learn to be better listeners (Benoit & Lee, 1988). They stated, "The most recent research appears to indicate that listening is a skill that students can learn and teachers can teach" (p. 229).

The purpose of this research project was to determine if listening effectiveness could be improved by completing a college listening class. The study looked at three hypotheses:

H1: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would improve the subjects' listening comprehension.

H2: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would result in improvement of all subjects' listening comprehension, however, gender would significantly affect the level of improvement.

H3: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would result in improvement of all subjects' listening comprehension, however, subjects' education level would significantly affect the level of improvement.

Data from this research clearly showed: (a) participation in a listening course improves listening behavior, (b) gender does not affect one's overall ability to listen effectively, and (c) more education has a positive effect on listening skill.

Introduction

A six-year-old boy, visiting his grandparents, remarked, "My daddy doesn't spank me any more." The grandmother responded with, "What does he do instead?" And, the grandchild said, "When I'm bad he just makes a speech." "What does he say?" she wanted to know. To which the boy said, "I don't know; I don't listen" (Pendleton, 1984, p. 119). Pendleton's story reflects an all too common attitude concerning the importance of listening in an individual's life. And, while a humorous story, it is sad to think too many people regard the importance of their listening behavior as the little boy did. This sort of attitude is especially troubling when it is realized that effective listening is a vital part of human communication.

Listening has been defined by Wolvin and Coakley (1988) as "the process of receiving, attending to and assigning meaning to aural stimuli" (p. 91). They offered the argument that listening skills develop and are used in a hierarchy. At the first level an individual seeks to identify the aural input (discriminative listening). The next is the level wherein the listener attempts to understand the message in order to remember and use the information (comprehensive listening). The remaining three are higher function behaviors. An individual may try to help someone by listening to that person's problems (therapeutic listening). Another behavior involves listening to a person to evaluate the merits of what is being spoken (critical listening). And, the final higher level of listening requires the individual to receive the message and respond toward it with pleasure (appreciative listening).

Purpose

The purpose of this research project was to determine if listening effectiveness could be improved by completing a college listening class.

Review of Literature

In writing about parent-child communication, Goodman (1988) stated parents want a close relationship with their children, "one with good communication" (p. 89). She noted, however, that the "realities of daily life" (p. 89) made good communication difficult for them to achieve in their relationships. Goodman argued that people spend "80% of [their] communication time listening" (p. 92). Yet, most of us have never learned to listen.

Listening is also important to us in other areas of our lives. Rowan (1986) wrote about the importance of and need for holistic listening. As a psychology practitioner, he claimed that without listening training "we cannot even begin to start any rationally defensible form of psychotherapy or counseling" (p. 83). He noted there is more than one kind of listening. Wilber and Von Eckartsberg (cited in Rowan) offered a model that indicated human beings operate at four levels: (a) body, (b) feelings, (c) intellect, and (d) soul/spirit. Rowan concluded that attention to all four dimensions would represent holistic listening.

It has been suggested that listening is good business (Bone, 1988). As she pointed out, people in businesses have valued listening because it improves morale, increases job commitment, and helps to improve productivity. She also noted individuals regularly listen to advertisements on the television or radio. Thus, the success of a business may be linked directly to how well someone is listening. Kiechel (1987) admonished business executives to learn how to listen.

"Effective listening is important not only to business but also to your professional image" (p. 34), claimed Morgan and Baker (1985). As professionals people often assume effective listening is the responsibility of the speaker, not the listener. They pointed out such an assumption is a misconception.

Some have suggested listening effectiveness is affected by gender. In the literature on nonverbal listening behaviors, Sayers (1987) found listening behaviors of women and men vary in cross-sex conversations. He found women often used higher levels of supportive nonverbal behaviors than men (e.g., smiling, gazing, nodding, and back-channeling). And, not only did men have a lower frequency of such behaviors, they tended to express a delayed minimal response while listening to others.

Justification

Being able to measure listening is important. Unfortunately, research concerning listening has resulted in conflicting data. It has been difficult to identify just what it is and isolate characteristics of effective listening. In part, this is true because researchers have not built upon the foundation laid by the work of previous scholars. With all the past research, there is yet to be a standard definition of listening, and an application of that definition in the process of human communication. Hopefully, this research project can offer more data concerning listening.

Communication researchers historically have criticized listening tests (Barker, Watson, & Kibler, 1984). According to Barker et al., the critics of listening tests have been concerned about test validity, multiple types of listening required of people, generalizability, norming procedures, passage length, and how listening tests are presented to the subjects. Considerable study has been devoted to examining the tests and their administration. However, according to Benoit and Lee (1988), previous investigations have suggested people can learn to be better listeners. They pointed out that "the most recent research appears to indicate that listening is a skill that students can learn and teachers can teach" (p. 229).

Methodology

This research project was a field study designed to investigate whether or not it was possible to increase an individual's listening ability if that person completed a college listening course. The project involved three hypotheses:

H1: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would improve the subjects' listening comprehension.

H2: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would result in improvement of all subjects' listening comprehension, however, gender would significantly affect the level of improvement.

H3: Active participation in a 3-hour, 16-week college listening course using a variety of instructional approaches would result in improvement of subjects' listening comprehension, however, subjects' education level would significantly affect the level of improvement.

Subjects

The subjects (N=28) consisted of an equal number of females and males who enrolled in a 3-hour, 16-week college listening course at a medium-sized, midwestern university during a fall semester. Their ages ranged between 18 to 55 years old. There were 20 undergraduate and 8 graduate students who participated in the research project.

Participation in the project was voluntary. The subjects who decided to participate in the research project were dealt with in accordance to the ethical standards as outlined in Principle 9, Research With Human Participants, "Ethical Principles of Psychologists," APA, 1981.

Apparatus

Watson-Barker Listening Test Form A and Form B Video Version was employed as pre- and post-test instruments for measuring listening levels of the subjects (Watson & Barker, 1988). This test was developed in 1985, and following two years of piloting testing the instrument was distributed. The listening test was specifically designed to measure the abilities of adults and college students. The instrument's development included pilot testing involving executives, professionals, government employees, and college students with various majors from a number of universities. Both Form A and B consisted of 50 multiple-choice questions (10 questions for each of five parts).

The Watson-Barker Listening Test has been divided into five parts. Part 1 was designed to measure the listener's ability to evaluate message content. Part 2 looked at the individual's ability to understand meanings during conversation. In Part 3, it was intended that the subject's ability to understand and remember information during a lecture would be tested. It was Part 4 that investigated the receiver's ability to evaluate emotional meaning in messages. And, in Part 5, Watson and Barker meant to measure the listener's ability to follow instructions and directions.

Experts in the field have suggested people need to adapt their listening styles to a variety of listening situations, therefore, Parts 1, 2, and 4 were designed to measure one's short-term memory listening skills. Parts 3 and 5 have been designed to measure skills used in long-term memory listening situations. Individual assessment of each of the test's parts has been shown to identify areas where improvement is needed by the listener.

The video version of the test includes visual images which could affect the listener's level of comprehension. Video versions of the Watson-Barker test

simulates listening to televised and live speakers.

Several thousand subjects from across the United States have been used to norm the data collected from the test. Factor analysis, item analysis, descriptive analysis, and reliability tests have been conducted on the Watson-Barker Listening Test. Face validity of the instrument was established by having a panel of listening experts judge the validity of each item on the test. The most current reliability data using the Kuder-Richardson test has shown R=.71 for Form A and R=.68 for Form B (personal communication, Watson & Barker, November 7, 1993).

In addition to the Watson-Barker Listening Test Form A and Form B Video Version, it was necessary to use a one-half inch VHS playback unit. Also, a color television monitor was used.

Procedure

In order to complete the research project the following five-phase procedure was followed:

Phase I. At the first scheduled meeting of a fall semester listening class the students were advised of the experiment and its purpose. Students were given an opportunity to transfer out of the course if they did not want to participate in the research project. They were assured of the protection of their rights to ethical treatment and the confidentiality of the data collected. All participants were advised the reported results would be grouped data and that no individual's name would be used. The subjects were asked to sign a release statement and told they could withdraw from the project at any time during the semester. The researcher provided students with an explanation of the Watson-Barker Listening Test Form A and Form B Video Version.

Phase II. During the first scheduled class meeting the subjects were

pretested using the Watson-Barker Listening Test Form A Video Version. The following steps were used to administer Form A:

Step 1. A color television monitor was connected to a one-half inch VHS video playback unit and placed in a central location in the room so that all subjects could easily see and hear what was played on the monitor.

Step 2. The Watson-Barker Listening Test Form A was inserted in the playback unit and the unit was turned on. The units were checked to make sure both were operational and that the color, contrast, and tracking adjustments were set.

Step 3. The tape was rewound and cued to the beginning of the listening test.

Step 4. Answer sheets were distributed to the test subjects.

Step 5. The subjects were told the test was about to begin. They also were told the directions for completing the test would be given aurally and visually on the videotape. And, the directions would be given only one time; they would not be repeated.

Step 6. The videotape of Form A was started and during the narrator's five-count the volume level was checked and set. A check was made to ensure that all subjects could hear the tape and had a clear view of the television monitor.

Step 7. The tape was played in its entirety (e.g., "This is the end of Part 5, and the end of the Watson-Barker Listening Test Form A.").

Step 8. The tape was stopped and the VHS playback unit and the television monitor were turned off.

Step 9. Because the purpose of this research was to determine if taking a college listening course would improve listening ability, the

subjects were asked to score their own forms. By using individual scoring each subject was able to identify the area or areas needing improvement and focus on improvement in those areas during the semester.

Step 10. The subjects' answer sheets were collected and the data was recorded for use in the future.

Phase III. During subsequent class meetings students were exposed to a variety of instructional formats (e.g., role-playing, case studies, lectures, and structured learning exercises). Subjects were asked to read Listening (Wolvin & Coakley, 1988). They were given four objective tests over the reading information throughout the semester. And, students were asked to keep a "Listening Journal." In the journal the students were asked to write daily entries that addressed four factors: (a) type of listening, (b) description of the listening event, (c) what was learned about listening, and (d) what was learned about the subject's listening behaviors and skills.

Phase IV. During the two-hour final examination period no course test was given, however, the students were post-tested using the Watson-Barker Listening Test Form B Video Version. Form B was administered by following Steps 1 through 10 as shown in Phase II. Again, in Step 9 the researchers had the students score their own forms. After the administration of Form B and its scoring, the remaining time was used to discuss individuals' results on the post-test and what the scores indicated about their listening behaviors and skills.

Phase V. Once the data had been gathered, it was first analyzed using a SPSS Release 4.1 for IBM VM/CMS Statistical Package to determine if there were any significant differences between various means. The researcher completed a t-test to determine if differences existed between (a) pre- and post-test scores, (b) gender scores, and (c) education level scores.

Although there were several statistically significant differences found in the data, the researcher also used the Number Crunchers Statistical System Version 5.0 (Hintze, 1987). It was used to complete a Wilcoxon Matched Pairs Test. The Wilcoxon Matched Pairs test examined the hypothesis that two variables have equal means versus the alternative that they were unequal. It tested two variables with paired bivariate observations. The Wilcoxon compared the means of the pretest scores from Form A versus the post-test scores from Form B.

The Wilcoxon Matched Pairs test is based on five assumptions:

1. The differences between the two variables are continuous.
2. The distribution of the differences is symmetric.
3. The differences between the two variables are mutually independent.
4. The differences between the two variables all have the same median.
5. The measurement scale of the differences between the two variables is at least interval data.

The researcher believed all five assumptions made by the Wilcoxon Matched Pairs test were met by the data collected and analyzed in this research project.

The Wilcoxon Matched Pairs test offered the most powerful nonparametric analysis of the data available for this project. Both the t-test and the Wilcoxon Matched Pairs test identified similar significant differences at a .05 alpha level. Also, the differences identified by the t-test and Wilcoxon were generally at the same level of significance.

Results

Having completed Phases II and IV of the Procedure (Steps 1 through 9), it was necessary to analyze the data. In the following tables the data are provided concerning the results of the t-tests for paired samples. Degrees of freedom for all tests were the number of cases minus one.

The data in Table 1 concerned the listener's ability to interpret what was heard. The means of the pre- and post-test reflected improvement in this area. At the .05 alpha level the change in listening ability in evaluating message content of the 28 subjects was statistically significant.

Table 1

Cumulative Pre- & Post-test: Part 1: Evaluating Message Content

Item	Results
Pretest Mean	9.2143
Post-test Mean	13.0000
Standard Deviation	3.542
T Value	-5.66
2-Tailed Probability	.000

The ability to understand messages during conversations was studied and Table 2 reported that at the .05 alpha level the subjects improvement was statistically significant. Looking at the pre- and post-test means, there was evidence the treatment positively improved the subjects' listening ability.

Table 2

Cumulative Pre- & Post-test: Part 2: Understanding Meaning in Conversation

Item	Results
Pretest Mean	8.0000
Post-test Mean	12.9286
Standard Deviation	4.337
T Value	-6.01
2-Tailed Probability	.000

Table 3 showed the 28 subjects' mean scores improved following participation in a college listening course. At the .05 alpha level the change was statistically significant. The means were higher on the post-test indicating the subjects' skill in understanding and remembering information was positively affected.

Table 3

Cumulative Pre- & Post-test: Part 3: Understanding and Remembering Information

Item	Results
Pretest Mean	10.7143
Post-test Mean	15.7857
Standard Deviation	3.751
T Value	-7.15
2-Tailed Probability	.000

At the .05 level of significance the data contained in Table 4 indicated there was no statistically significant improvement in the ability to evaluate emotional meanings. There was some increased positive movement between the means of the pre- and post-test.

Table 4

Cumulative Pre- & Post-test: Part 4: Evaluating Emotional Meaning

Item	Results
Pretest Mean	14.6429
Post-test Mean	14.9286
Standard Deviation	3.640
T Value	-.42
2-Tailed Probability	.681

Page 12, Listening Test

Results reported in Table 5 showed no improvement in following instructions and directions by the subjects. The t-test showed a lower group mean score for the post-test.

Table 5

Cumulative Pre- & Post-test: Part 5: Following Instructions and Directions

Item	Results
Pretest Mean	14.5714
Post-test Mean	14.4286
Standard Deviation	4.284
T Value	.18
2-Tailed Probability	.861

Table 6 reported the group mean scores for the Watson-Barker Listening Test. At the .05 significance level, the data showed that overall the subjects' listening ability was improved following the treatment used in this research project. The group mean scores from the pre- and post-test suggested strong upward movement of the scores.

Table 6

Cumulative Pre- & Post-test Results for Watson-Barker Listening Test

Item	Results
Pretest Mean	57.1429
Post-test Mean	71.0714
Standard Deviation	10.363
T Value	-7.11
2-Tailed Probability	.000

Page 13, Listening Test

At the .05 alpha level the results of the Wilcoxon Matched-Pairs test was consistent with the significant differences reported by the t-test for paired samples. The test direction was pretest < post-test. Results from the test of the data was reported in Table 7.

Table 7

Wilcoxon Test Results of the Pre- and Post-test Means

Item	Results
Sum of the Positive Ranks (T)	386.5000
Number of Non-zero Values	28.0000
Mean of the T	203.0000
Standard Deviation of T	43.9146
Z-value	4.1785
Prob (| z | > 4.179)	.0000

The results from the t-test concerning the males' ability to interpret message content was given in Table 8. The 2-tailed probability was .002 and was significant at the .05 level. The pre- and post-test means showed a higher mean on the post-test following the treatment.

Table 8

Males Pre- & Post-test: Part 1: Interpreting Message Content

Item	Results
Pretest Mean	4.2857
Post-test Mean	6.0000
Standard Deviation	1.684
T Value	-3.81
2-Tailed Probability	.002

Page 14, Listening Test

Table 9 contained the t-test results for male subjects regarding their skill in understanding meaning during dialogues. The .003 2-tailed probability score was significant at the .05 level of significance. Pre- and post-test means were significantly different with the post-test mean score higher than the one obtained for the pretest.

Table 9

Males Pre- & Post-test: Part 2: Understanding Meaning in Conversation

Item	Results
Pretest Mean	4.2857
Post-test Mean	6.1429
Standard Deviation	1.875
T Value	-3.71
2-Tailed Probability	.003

Results from Part 3, "Understanding and Remembering Information," was reported in Table 10. At the .05 significance level the 2-tailed probability of .000 was highly significant for the male subjects. The pre- and post-test means showed significant upward movement following participation in the college listening course.

Page 15, Listening Test

Table 10

Males Pre- & Post-test: Part 3: Understanding & Remembering Information

Item	Results
Pretest Mean	4.5714
Post-test Mean	7.2857
Standard Deviation	2.016
T Value	-5.04
2-Tailed Probability	.000

Table 11 revealed that at the .05 level the difference between the mean scores for males was not significant. Data concerning the male subjects showed a mean higher for the post-test on Part 4 ("Evaluating Emotional Meaning").

Table 11

Males Pre- & Post-test: Part 4: Evaluating Emotional Meaning

Item	Results
Pretest Mean	7.0714
Post-test Mean	7.6429
Standard Deviation	1.989
T Value	-1.07
2-Tailed Probability	.302

The t-test results dealing with "Following Instructions & Directions" for male subjects did not reflect improvement. The pre- and post-test means showed a slight decline following the treatment. Table 12 contained the results.

Page 16, Listening Test

Table 12

Males Pre- & Post-test: Part 5: Following Instructions & Directions

Item	Results
Pretest Mean	6.8571
Post-test Mean	6.7857
Standard Deviation	2.269
T Value	1.2
2-Tailed Probability	.908

The results of the t-test comparing pre- and post-test for the cumulative mean scores for males on the Watson-Barker Listening Test was reported in Table 13. The data showed a higher group mean score for males. The difference in means was statistically significant at the .05 level.

Table 13

Males Pre- & Post-test: Watson-Barker Listening Test Mean

Item	Results
Pretest Mean	54.1429
Post-test Mean	67.7143
Standard Deviation	11.071
T Value	-4.59
2-Tailed Probability	.001

Table 14 reported the t-test results for female subjects on Part 1 ("Evaluating Message Content"). The 2-tailed probability score of .001 was clearly significant at .05.

Table 14

Females Pre- & Post-test: Part 1: Evaluating Message Content

Item	Results
Pretest Mean	4.9286
Post-test Mean	7.0000
Standard Deviation	1.900
T Value	-4.08
2-Tailed Probability	.001

Female subjects' test results on Part 2, "Understanding Meaning in Conversation," has been provided in Table 15. The mean score differences were statistically significant at the .05 level. Females' post-test mean scores improved to 6.7857 when compared to the pretest results of 3.7143.

Table 15

Females Pre- & Post-test: Part 2: Understanding Meaning in Conversation

Item	Results
Pretest Mean	3.7143
Post-test Mean	6.7857
Standard Deviation	2.336
T Value	-4.92
2-Tailed Probability	.000

The data given in Table 16 concerned female subjects ability to understand and remember information. The t-test showed a significant difference between the pre- and post-test mean scores (2-tailed probability was .000).

Page 18, Listening Test

Table 16

Females Pre- & Post-test: Part 3: Understanding & Remembering Information

Item	Results
Pretest Mean	6.1429
Post-test Mean	8.5000
Standard Deviation	1.781
T Value	-4.95
2-Tailed Probability	.000

Table 17 reported the data for female subjects' ability to evaluate emotional meaning. The mean scores dropped from 7.5714 for the pretest to 7.2857 on the post-test. The difference was not statistically significant at the .05 level.

Table 17

Females Pre- & Post-test: Part 4: Evaluating Emotional Meaning

Item	Results
Pretest Mean	7.5714
Post-test Mean	7.2857
Standard Deviation	1.590
T Value	.67
2-Tailed Probability	.513

An alpha level of .05 indicated no significant difference between the pre- and post-test means for females on Part 5 ("Following Instructions and Directions"). The test data have been reported in Table 18.

Page 19, Listening Test

Table 18

Females Pre- & Post-test: Part 5: Following Instructions & Directions

Item	Results
Pretest Mean	7.7143
Post-test Mean	7.6429
Standard Deviation	2.093
T Value	.13
2-Tailed Probability	.900

Table 19 data showed a definite significant difference of .000 at a .05 level for female subjects cumulative means on the Watson-Barker Listening Test. The females' post-test mean score increased dramatically.

Table 19

Females Pre- & Post-test: Watson-Barker Listening Test Mean

Item	Results
Pretest Mean	60.1429
Post-test Mean	74.4286
Standard Deviation	10.011
T Value	-5.34
2-Tailed Probability	.000

A t-test was completed comparing the mean cumulative scores on the Watson-Barker Listening Test for male and female subjects. The results of the test revealed no significant difference at the .05 level.

Concerning the effects of education (H3), Table 20 reported the t-test results did not find a significant difference between the pre- and post-test

mean scores for graduate students. The mean scores did move positively following the treatment.

Table 20

Cumulative Pre- & Post-test: Graduate Students

Item	Results
Pretest Mean	56.7500
Post-test Mean	66.7500
Standard Deviation	14.182
T Value	-1.99
2-Tailed Probability	.086

Table 21 included the cumulative test results for undergraduate students. At the .05 level, the undergraduate subjects' mean scores should a significant difference after participating in a college listening course.

Table 21

Cumulative Pre- & Post-test: Undergraduate Students

Item	Results
Pretest Mean	57.3000
Post-test Mean	72.8000
Standard Deviation	8.332
T Value	-8.32
2-Tailed Probability	.000

Discussion

The researcher has provided related literature about listening and completed the methodology as previously described along with the results

gathered through the procedure. At this point it is necessary to offer several conclusions about listening and teaching listening, limitations of this study, and implications for further research.

Conclusions

The first research hypothesis asked the question, "Would active participation in a 3-hour, 16-week college listening course, using a variety of instructional approaches, improve the subjects listening comprehension?" The data in Tables 6 and 7 showed a significant improvement in cumulative mean scores that supports hypothesis. In other words, the evidence strongly supported the idea that listening can be taught so that listeners' comprehension is improved. Both the t-test and the Wilcoxon reflected highly significant overall listeners' improvement. Specifically, the listeners showed improved in three areas:

(a) evaluating message content, (b) understanding and comprehending conversation, and (c) understanding and remembering information.

Given the five types of listening identified by Wolvin and Coakley (1988) and presented in the college course, it is possible to see a direct link between the information discussed and skills practiced during the semester. Discriminative, comprehensive, and critical listening were positively affected through participation in the course.

The two areas not showing significant differences were "evaluating emotional meaning" and "following instructions and directions." The data did not reflect "poor" listening, only that participation did not result in improvement. Perhaps what the results suggest were that these dimensions of listening were already adequately developed. Certainly the course focused on these aspects of listening (e.g., therapeutic and critical listening). Given the specific

backgrounds of the subjects (e.g., communication majors, counselors, ministers,etc.), it could be concluded a majority of the subjects already possessed abilities appropriate for understanding emotional meaning and following directions.

In summary, this researcher has concluded the results showed, that without a doubt, hypothesis one was upheld. The cumulative t-test and the Wilcoxon Matched Pairs test indicated overall that the subjects listening comprehension was improved through participation in a college listening course. This is significant to administrators and communication faculty because it has provided support for including such a course in the college curriculum.

The second research hypothesis sought to determine if active participation in a 3-hour, 16-week college listening course, that used a variety of instructional approaches, would result in greater improvement of the subjects' listening comprehension based on a gender factor. The results of a t-test comparing the cumulative mean scores on the post-test for males and females failed to show a significant difference at the .05 alpha level.

The data revealed differences, but those differences were very slight. "Evaluating Message Content," Part 1, showed female subjects mean scores were significant at .001 while the male's mean tested significant at .002. What should be noted is that both groups mean scores were highly significant at .05 level.

On Part 2, "Understanding Meaning in Conversation," the male subjects' mean score was significant at .003, while the female subjects 2-tailed probability was .000. The difference was so minimal as to be inconsequential.

And, the third difference was even more slight. The mean scores t-tests for males and females showed significant differences of .001 and .000, respectively.

Although no statistically significant results were found for males and females on Part 4, "Evaluating Emotional Meaning," it was worth noting that the males improved in this area following the treatment. The male subjects' pretest mean was 7.0714 as compared a post-test score of 7.6429 (see Table 11). The female subjects did not show improvement (see Table 17). There have been those who have argued that females have more experience and training in dealing with emotional meanings in messages. The fact that the males in this study showed improvement following the treatment, but that the females did not may actually support such a contention.

Based on the evidence, it was concluded that there were no significant differences based on the gender factor. Hypothesis two was disproved, however, as pointed out in the discussion concerning hypothesis one, all subjects' listening comprehension improved as a result of participation in the college course.

The third research hypothesis investigated whether or not active participation in a 3-hour, 16-week college listening course, using a variety of instructional approaches, would result in greater improvement of listening comprehension due to an education level factor. The data (see Table 20) revealed a nonsignificant difference in the pre- and post-test mean scores for graduate students. However, the results (see Table 21) showed a statistically significant improvement for undergraduate students following participation in the course.

Graduate student mean scores did not improve with the treatment. This could have been the result of their greater experience and skill. It seemed reasonable to conclude that students who have achieved graduate student status are likely to be better listeners. Undergraduate students, as a whole, would have less general knowledge, fewer experiences, and less developed listening skills. Based

on the data, it has been determined that hypothesis three was upheld.

In summary, the data from this research clearly showed: (a) participation in a listening course improves listening behavior, (b) gender does not affect one's overall ability to listening effectively, and (c) more education has a positive effect on listening skill.

Limitations of this Study

Having conducted this research project, there appeared to be three limiting factors that should be mentioned. First, the data gathered was from a videotaped activity. Watson and Barker (1988) noted "the 'live' environment is different from that on the television screen and test results may be affected by the medium of test presentation" (p. 1). Secondly, the results are based on a small sample size. And, finally, this researcher did not control for extraneous variables which might have affected the learning curve of the subjects.

Implications for Further Research

Other researchers interested in improving people's ability to listen effectively are encouraged to experiment with specific instructional techniques in an effort to identify ways to teach the subject more effectively. Also, it is hoped there will be additional attention given to define the listening process and how it is affected by culture, education, and socioeconomic factors as well as gender. Finally, it seems reasonable to suggest a cohort of listeners be followed over a period of years to determine long-range effects of taking a college listening course.

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